

## **Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

1. (Currently Amended) A method, comprising:

receiving, by a measurement system, a measurement model ~~that comprises~~ for a measurement area of a sample, said measurement model comprising measurement image information, reference measurement information representative of measurements to be made using the measurement model and edge information;

locating, by the measurement system, ~~a target~~ the measurement area of [[a]] the sample by (i) locating a vicinity area that includes the measurement area of the sample by detecting a target and then displacing a scanning beam from the target by a predefined displacement amount, and (ii) locating the measurement area of the sample within the vicinity area by applying image processing utilizing the measurement image information of the measurement model;

locating, by the measurement system, edges of structural features within the ~~target~~ measurement area of the sample by searching in a proximity of reference edges defined in the edge information;

performing, by the measurement system, at least one measurement of the ~~target~~ measurement area of the sample based on the located edges of the structural features and the reference measurement information included in the measurement model; and

providing, by the measurement system, measurement result information to a user.

2 - 5. (Cancelled)

6. (Currently Amended) The method of claim 1 wherein the performing of the at least one measurement comprises measuring at least one feature of at least one structural element within the ~~target~~ measurement area of the sample.

7. (Currently Amended) The method of claim 1 wherein the performing of the at least one measurement comprises measuring a relationship between multiple structural elements within the ~~target~~ measurement area of the sample.

8. (Cancelled)

9. (Previously Presented) The method of claim 1 further comprising generating the measurement image information from an SEM image.

10. (Previously Presented) The method of claim 1 further comprising generating the measurement image information from CAD information.

11. (Cancelled)

12. (Currently Amended) The method of claim 1 further comprising ~~repeating a generation of~~ repeatedly generating the measurement model until one or more criteria are fulfilled.

13. (Currently Amended) A system comprising:

a processor, wherein the processor is enabled to:

generate or receive a measurement model for a measurement area of a sample, said measurement model comprising measurement image information, reference measurement information representative of measurements to be made using the measurement model and edge information,

~~locate a target~~ the target measurement area of [[a]] the sample by (i) locating a vicinity area that includes the measurement area of the sample by detecting a target and then displacing a scanning beam of the scanner from the target by a predefined displacement amount, and (ii) locating the measurement area of the sample within the vicinity area by applying image processing utilizing the measurement image information of the measurement model,

~~locate edges of structural features within the target measurement area of the sample~~ by searching in a proximity of reference edges defined in the edge information,

~~perform at least one measurement of the target measurement area of the sample~~ based on the located edges of the structural features and the reference measurement information included in the measurement model,

control [[a]] the scanner, and

process multiple detection signals received from a detector;

the scanner, in communication with the processor, wherein the scanner is enabled to scan the ~~target~~ measurement area of the sample with [[a]] the scanning beam of charged particles; and

the detector, in communication with the processor, wherein the detector is positioned to receive charged particles resulting from an interaction between the ~~target~~ measurement area of the sample and the scanning beam of charged particles and is enabled to provide the multiple detection signals, based on the received charged particles, to the processor.

14 - 17.(Cancelled)

18. (Currently Amended) The system of claim 13 wherein the processor is further enabled to perform at least one measurement of at least one feature of at least one structural element within the ~~target~~ measurement area of the sample.

19. (Currently Amended) The system of claim 13 wherein the detector is further enabled to detect a relationship between multiple structural elements within the ~~target~~ measurement area of the sample.

20. (Cancelled)

21. (Currently Amended) A system comprising:

a processor, wherein the processor is enabled to:

generate a measurement model for a measurement area of a sample, said measurement model comprising measurement image information, reference measurement information representative of measurements to be made using the measurement model and edge information,

locate ~~a target~~ the measurement area of [[a]] the sample by (i) locating a vicinity area that includes the measurement area of the sample by detecting a target and then displacing a scanning beam of a scanner from the target by a predefined displacement amount, and (ii) locating the measurement area of the sample within the vicinity area by applying image processing utilizing the measurement image information of the measurement model,

locate edges of structural features within the ~~target~~ measurement area of the sample by searching in a proximity of reference edges defined in the edge information,

perform at least one measurement of the ~~target~~ measurement area of the sample based on the located edges of the structural features and the reference measurement information included in the measurement model,

control ~~[[a]]~~ the scanner, and

process multiple detection signals received from a detector;

the scanner, in communication with the processor, wherein the scanner is enabled to scan the ~~target~~ measurement area of the sample with ~~[[a]]~~ the scanning beam of charged particles; and

the detector, in communication with the processor, wherein the detector is positioned to receive charged particles resulting from an interaction between the ~~target~~ measurement area of the sample and the scanning beam of charged particles and is enabled to provide the multiple detection signals, based on the received charged particles, to the processor.

22. (Previously Presented) The system of claim 21 wherein the processor is further enabled to generate the measurement image information from an SEM image.

23. (Previously Presented) The system of claim 21 wherein the processor is further enabled to generate the measurement image information from CAD information.

24 - 27. (Cancelled)

28. (Currently Amended) The system of claim 21 wherein the processor is further enabled to perform at least one measurement of at least one feature of at least one structural element within the ~~target~~ measurement area of the sample.

29. (Currently Amended) The system of claim 21 wherein the detector is further enabled to detect a relationship between multiple structural elements within the ~~target~~ measurement area of the sample.

30. (Cancelled)